

**National Climatic Data Center**

**DATA DOCUMENTATION**

**FOR**

**DATA SET 9603 (DSI-9603)**

**National Lightning Detection Network (NLDN)**

**October 19, 2005**

National Climatic Data Center  
151 Patton Ave.  
Asheville, NC 28801-5001 USA

## Table of Contents

Topic	Page Number
1. Abstract.....	3
2. Element Names and Definitions: .....	4
3. Start Date.....	5
4. Stop Date.....	5
5. Coverage.....	5
6. How to order data.....	5
7. Archiving Data Center. ....	5
8. Technical Contact.....	5
9. Known Uncorrected Problems.....	5
10. Quality Statement.....	5
11. Essential Companion Data Sets.....	5
12. References.....	6

1. **Abstract:** These lightning data are incidents of lightning strokes that have been detected by the U.S. National Lightning Data Network (NLDN) sensors and by lightning detectors outside the Continental U.S. These data are retrieved from NOAAPORT and are encoded in binary. U.S. data are identified by their message ID SFUS41 and non-U.S. data by their message ID SFPA41. Decoder software developed at the National Climatic Data Center (NCDC) converts the binary format to a formatted ASCII record. A detailed description of the ASCII record are provided below.

2. **Element Names and Definitions:**

POS: 1-4

**Year**

The year the data were observed. A four-digit number.

POS: 5-6

**Month**

The month the data were observed. Range of values are 01 to 12.

POS: 7-8

**Day**

The day the data were observed. Range of values are 01 to 31.

POS: 9-10

**Hour**

The hour the data were observed. Range of values are 00 to 23.

POS: 11-12

**Minute**

The minute the data were observed. Range of values are 00 to 59.

POS: 13-14

**Second**

The second the data were observed. Range of values are 00 to 59.

POS: 15

**Not Used**

POS: 16-24

**Latitude**

Latitude of the lightning stroke. Format XXX.XXXXX.

MIN: -90.00000 MAX: 90.00000

POS: 25

**Not Used**

POS: 26-35

**Longitude**

Longitude of the lightning stroke. Format XXXX.XXXXX.

MIN: -180.00000 MAX: 180.00000

:  
:

3:

Western hemisphere longitudes range from 0 to -180 degrees,  
eastern hemisphere longitudes range from 0 to 180 degrees.

POS: 36

Not Used

POS: 37-38

**Message Type**

This field identifies whether this record was U.S. continental data or an international location.

Values are "FL" and "RT".

A value of "FL" stands for FLASH and identifies this record as U.S. data.

A value of "RT" stands for Real-Time data type and identifies this record as international data.

POS: 39

Not Used

POS: 40-41

**Stroke Type**

This field identifies whether this lightning stroke was cloud-to-ground or cloud-to-cloud.

Values are "CG" for cloud-to-ground and "CC" for cloud-to-cloud. FLASH (FL) data are always cloud-to-ground while REAL-TIME (RT) data can be either type.

POS: 42

Not Used

POS: 43-46

**Stroke Kiloamps**

The stroke kiloamperes.

MIN: -154                      MAX: 154

POS: 47

Not Used

POS: 48-49

**Stroke Multiplicity**

If the "message type" is Flash (FL), then the value is the stroke multiplicity; otherwise, the value is 0.

MIN: 0                              MAX: 15

POS: 50

Not Used

POS: 51-52

:  
:

**Deciseconds**

Tenths of a second.

MIN: 0

MAX: 9

3. **Start Date:** 20059999

4. **Stop Date:** Present

5. **Coverage:**

- a. Southernmost Latitude: 90° S. Latitude
- b. Northernmost Latitude: 90° N. Latitude
- c. Westernmost Longitude: 180° W. Longitude
- d. Easternmost Longitude: 180° E. Longitude

6. **How to Order Data:**

Ask NCDC's Climate Services about the cost of obtaining this data set.

Phone: 828-271-4800

FAX: 828-271-4876

E-mail: [NCDC.Orders@noaa.gov](mailto:NCDC.Orders@noaa.gov)

7. **Archiving Data Center:**

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, NC 28801-5001  
Phone: (828) 271-4800.

8. **Technical Contact:**

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, NC 28801-5001  
Phone: (828) 271-4800.

9. **Known Uncorrected Problems:** None.

10. **Quality Statement:**

Disclaimer: While every effort has been made to ensure that these data are accurate and reliable within the limits of the current state of the art, NOAA cannot assume liability for any damages caused by any errors or omissions in the data, nor as a result of the failure of the data to function on a particular system. NOAA makes no warranty, expressed or implied, nor does the fact of distribution constitute such a warranty.

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This dataset underwent minimal quality control checks which included verifying that the latitude, longitude, stroke kiloamps, multiplicity, and deciseconds values are within defined limits. NCDC can make no statements relative to any quality control performed prior to receiving the data.

11. **Essential Companion Datasets:** None.
12. **References:** None; information provided with original documentation.